TYPICAL SECTION
TYPE D NEXT BEAM

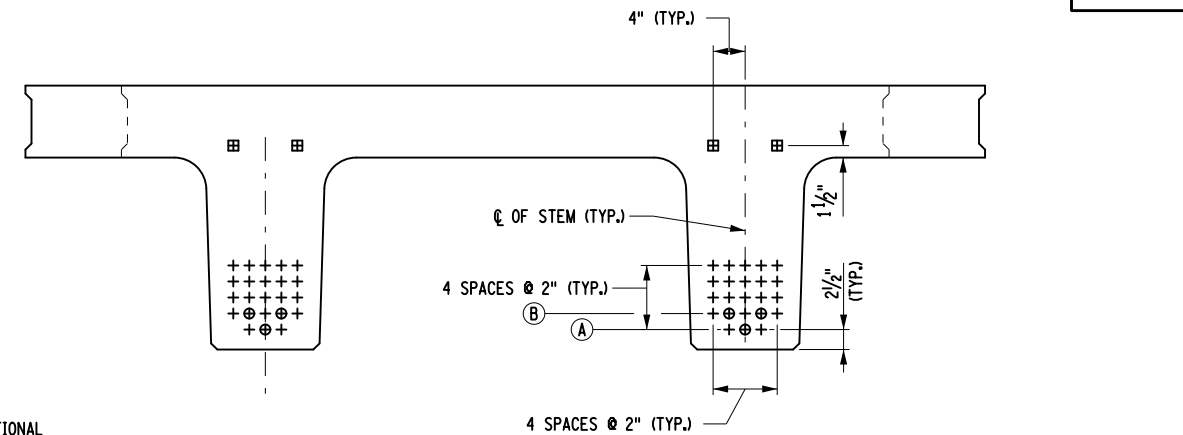
DESIGN LOAD TABLE			
BEAM NO.	D.L.	UNIT	REACTION AT ABUTMENT (kips)
			MAX. MOM. MIDSPAN (k-ft)
		BEAM	
		CONCRETE JNTS.	
		RAILING/BARRIER	
		FUTURE W.S.	
		HL-93	
		PERMIT VEH.	

ALL LOADS ARE UNFACTORED
LIVE LOADS INCLUDE IMPACT.

CAMBER TABLE (MID-SPAN)		
CAMBER DUE TO PRESTRESSED FORCE AND BEAM DEADLOAD AT TRANSFER	↑	
CAMBER DUE TO PRESTRESSED FORCE AND BEAM DEADLOAD WITH GROWTH **	↑	
DEFLECTION DUE TO CONCRETE JOINT DEAD LOAD	↓	
DEFLECTION DUE TO SUPERIMPOSED DEAD LOAD	↓	

** CAMBER GROWTH IS ASSUMED TO BE 50% OF THE CAMBER AT TRANSFER.

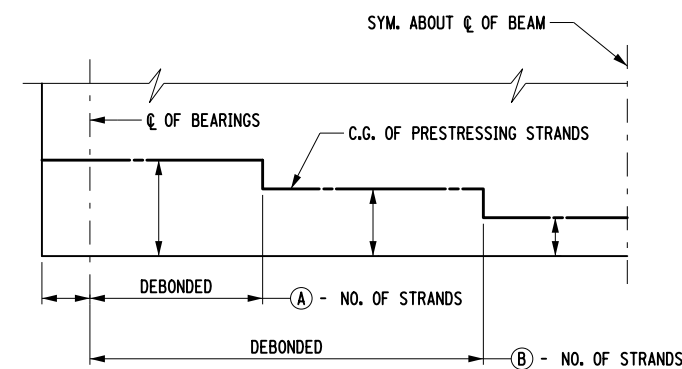
TYPE D NEXT BEAM PROPERTIES							
BEAM TYPE	BEAM FLANGE WIDTH (INCHES)	BEAM DEPTH (INCHES)	BEAM STEM WIDTH (INCHES)	AREA (IN ²)	I (IN ⁴)	Yb (INCHES)	WEIGHT (PLF)
	A	B	C				
8' WIDE BEAMS							
NEXT 40 D	96.00	41.00	13.00	1763	258748	26.26	1836
NEXT 36 D	96.00	37.00	13.25	1658	193181	23.79	1727
NEXT 32 D	96.00	33.00	13.50	1551	138970	21.29	1616
NEXT 28 D	96.00	29.00	13.75	1442	95413	18.74	1502
10' WIDE BEAMS							
NEXT 40 D	120.00	41.00	13.00	1979	280397	27.37	2061
NEXT 36 D	120.00	37.00	13.25	1874	209138	24.79	1952
NEXT 32 D	120.00	33.00	13.50	1767	150285	22.17	1841
NEXT 28 D	120.00	29.00	13.75	1658	103094	19.49	1727



TYPICAL STRAND LOCATIONS

LEGEND

- + - DENOTES STRAIGHT BONDED STRAND
- ⊕ - DENOTES STRAIGHT DEBONDED STRAND
- ⊞ - DENOTES STRANDS TENSIONED TO 2.2 kips



DEBOND SCHEMATIC

NOTE:

A DRIP GROOVE SHALL BE PROVIDED ON FASCIA BEAMS.

END DRIP GROOVE 3'-0" FROM FACE OF ABUTMENT WITH A 90° TURN TOWARD FASCIA THAT INTERSECTS THE CHAMFER.

DESIGNER NOTES:

VARIATION IN FLANGE WIDTH BETWEEN THE DIMENSIONS SHOWN IS ALLOWED. BEAMS WITH FLANGE WIDTHS OUTSIDE OF THE RANGE SHOWN; IF APPROVED BY THE DEPUTY CHIEF ENGINEER (STRUCTURES), WILL REQUIRE A SPECIAL DESIGN.

IF NECESSARY, AN INTERIOR FLANGE OVERHANG MAY BE LESS THAN THE MINIMUM SHOWN. CONTACT THE CONCRETE ENGINEERING UNIT FOR DETAILS.

THE TOP FLANGE OF A TYPE D NEXT BEAM SHALL BE A MINIMUM OF 9" THICK.

CONSULT THE BRIDGE MANUAL FOR DEBONDING CRITERIA.

THE STRANDS LABELED ⊞ SHALL BE TENSIONED TO 2.2 kips. THESE STRANDS OR ADDITIONAL STRANDS WITHIN THE TOP FLANGE MAY BE TENSIONED TO FULL PRETENSIONING IF REQUIRED BY DESIGN.

WHEN THE TOP SURFACE OF ANY BEAMS ARE SUBJECT TO VEHICLE TRAFFIC PRIOR TO DIAMOND GRINDING AND LONGITUDINAL GROOVING, THE FOLLOWING NOTE SHALL BE ADDED:
THE TOP SURFACE OF PRESTRESSED CONCRETE UNITS SHALL RECEIVE A TRANSVERSE RAKE OR STIFF BROOM FINISH WITH AN AMPLITUDE OF 1/4".

BEAM OVERHANG PAST Ⓞ BEARINGS = $\frac{\text{BEARING LENGTH}}{2} + 1" \text{ (MIN.)}$

THE STEM WIDTH AND SPACING ARE FIXED.

NOTES:

ALL PRESTRESSING STRANDS SHALL BE 0.6" DIAMETER, LOW RELAXATION STEEL WITH A GUARANTEED ULTIMATE STRENGTH OF 270 ksi.

JACKING FORCE = 43.9 kips PER STRAND.

REQUIRED MINIMUM CONCRETE STRENGTH AT TRANSFER = 7 ksi.

REQUIRED MINIMUM CONCRETE STRENGTH AT 56 DAYS = 10 ksi.

ALLOWABLE TENSION IN THE PRESTRESSED CONCRETE UNITS:


AT TRANSFER = ksi.

AT SERVICE LIMIT STATE = ksi (HL-93)

AT SERVICE LIMIT STATE = ksi (NYSOT PERMIT VEHICLE)

ALL BEAMS SHALL HAVE AN EXPOSED AGGREGATE FINISH 1/4" MINIMUM AMPLITUDE ON ANY SURFACE THAT WILL BE IN CONTACT WITH THE CLOSURE POUR CONCRETE USED IN LONGITUDINAL JOINTS AND BACKWALLS.

PRESTRESSING STRANDS CUT FLUSH WITH THE END OF THE BEAM OR EXTENDED FOR INTEGRAL ABUTMENT APPLICATIONS SHALL BE PROTECTED AGAINST CORROSION BY THE APPLICATION OF ZINC PAINT IN ACCORDANCE WITH THE "REPAIR" PORTION OF THE NYS STANDARD SPECIFICATION SECTION 719.01. THE COST OF COATING THE STRANDS SHALL BE INCLUDED IN THE PRICE BID FOR THE BEAM ITEM.

REVISED	 <div>NEW YORK STATE OF OPPORTUNITY.</div>	<div>Department of Transportation</div> <div>Office of Structures</div>	
		<div>PRESTRESSED CONCRETE</div> <div>NEXT D BEAM</div> <div>TYPICAL SECTION & STRAND DETAILS</div>	
ERRATA			
	<div>APPROVED: 02/17/17</div> <div>ORIGINAL SIGNED BY</div> <div><u>RICHARD MARCHIONE, P.E.</u></div> <div>DEPUTY CHIEF ENGINEER</div> <div>(STRUCTURES)</div>		<div>ISSUED UNDER EB 17-010</div> <div>EFFECTIVE WITH THE</div> <div>LETTING OF 09/01/17</div>